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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,647	10/31/2003	Muneki Hamashima	032082	8467
38834	7590	04/06/2005	EXAMINER	
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			TRAN, THUY V	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/697,647

Applicant(s)

HAMASHIMA ET AL.

Examiner

Thuy V. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendments dated 1/19/05 & 1/28/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-11 is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is a response to the Applicants' amendment submitted on 01/19/2005 and supplemental amendment submitted on 01/28/2005. In virtue of the supplemental amendment, claim 12 is canceled; and thus, claims 1-11 are now presented in the instant application.

A telephone call was made to Mr. William M. Schertler on 04/04/2005 to expectedly resolve 112/2nd matter in regard to claim 1. However, no agreement was reached. Therefore, the action proceeds as follows:

Specification Objections/ Minor Informalities

1. The disclosure is objected to because of the following broken words:

Page 4, line 3, "s at" should be changed to --seat--; and

Page 15, line 3, "th sampl" should be changed to --the sample--; and "ther on" should be changed to --thereon--.

Appropriate correction is required.

- *Applicants are noted that the above objections are made based on the copy provided to the Examiner for examination. If Applicants believe that the original copy that was submitted to the Office contains no such errors, providing the original pages 4 and 15 for correction is requested.*

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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With respect to claim 1, the recitation “wherein said deflector is controlled ... of said plurality of primary electron beams” in lines 10-13 renders the claim indefinite since it is not understood how the deflector is controlled to deflect the secondary electron beams synchronously with scanning of the primary electron beams to prevent the secondary beams from moving on the detector in response to the scanning of the primary electron beams. It appears that such processes of deflection and scanning are taken place asynchronously. If the interpretation is correct, changing “synchronously” to “asynchronously” is suggested. Clarification is required.

Claims 2-4 are also rejected under 35 U.S.C. 112, second paragraph, since they are dependent on claim 1.

Allowable Subject Matter

4. Claims 5-11 are allowed.
5. Claims 1-4 would be allowable if claim 1 is rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
6. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose or fairly suggest:

- An electron beam apparatus wherein the deflector is controlled to deflect the plurality of secondary electron beams asynchronously with scanning of the plurality of primary electron beams, thereby preventing the plurality of secondary electron beams from moving on the detector in response to the scanning of the plurality of primary electron beams, in combination with the remaining claimed limitations as called for in independent claim 1 (claims 2-4 would be allowable since they are dependent on claim 1);

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- An electron beam apparatus wherein the Wehnelt electrode comprises a first portion adjacent to the cathode electrode and a second portion separated from the first portion; the first portion being finely movable in an x-direction, a y-direction, or a z-direction orthogonal to one another, in combination with the remaining claimed limitations as called for in independent claim 5 (claims 6-9 are allowed since they are dependent on claim 5);
- An electron beam apparatus comprising an ExB separator deposited between the objective lens and former stage lens in the primary optical system for separating the secondary electron beams, in combination with the remaining claimed limitations as called for in independent claim 10; and
- An electron beam apparatus wherein a secondary electron image is focused around the separator, in combination with the remaining claimed limitations as called for in independent claim 11.

Citation of relevant prior art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art McCord (U.S. Patent No. 6,586,736) discloses a scanning electron beam apparatus.

Prior art Katsap et al. (U.S. Patent No. 6,400,090) discloses electron emitters for lithography tools.

Prior art Katsap et al. (U.S. Patent No. 6,232,040) discloses a method of electron beam exposure utilizing emitter with conductive mesh grid.

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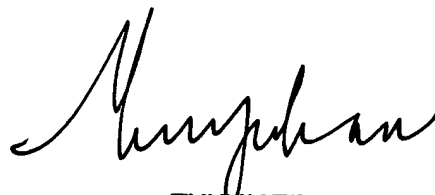
Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy V. Tran whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

04/03/2005



THUY V. TRAN
PRIMARY EXAMINER